November 14, 2000

Enclosed are three (3) documents to be included in the Administrative Record file for the Operable Unit 1: 881 Hillside Area project. The three documents are public comments on the proposed Major Modification to the OU1: 881 Hillside Area Corrective Action Decision/Record of Decision, dated May 2000, received from the City of Broomfield, City of Westminster, and Man-In-The-Maze Consulting. No other public comments were received.

Please contact Tracey Spence at extension 4322 or Annette Primrose at extension 4385 if you have any questions.

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Diane Henderson

City of Broomfield

ONE DESCOMBES DRIVE BROOMFIELD, CO 80020 (303) 469-3301

Copies: Tarlton
Pottorff
Horstmann

August 9, 2000

Norma Castaneda
Kaiser-Hill, L.L.C.
Rocky Flats Environmental Technology Site
10808 Highway 93 Unit A
Golden, Colorado 80403-8200

Re: Major Modification to Operable Unit 1 (OU1): 881 Hillside Area

Dear Ms. Castaneda:

The City of Broomfield appreciates the opportunity to review and comment on the proposed "Major Modification to Operable Unit 1 (OU1): 881 Hillside Area Corrective Action Decision/Record of Decision (CAD/ROD)". City staff has very carefully reviewed the proposed modifications and respectively has questions and comments regarding the cessation of groundwater pumping and collection of contaminated water remaining within the Individual Hazardous Substance Site (IHSS).

The City of Broomfield wants to express its concern that the modification was not received in a timely manner to allow for a 30-day comment period. In the future, the Department of Energy (DOE) must allow for the 30-day comment period required by CERCLA §304.435 (c) (2) (ii) (C), or Broomfield will begin to request extensions for the comment period.

Per your cover letter to the regulators, DOE proposes to discontinue pumping the OU1 collection well one-year after the approval of the CAD/ROD "if there is a continued declining trend in the concentrations of trichloroethene (TCE)". The City of Broomfield has the following issues with the discontinuation of pumping and treating of groundwater in OU1 within the one-year timeframe.

Groundwater extraction and treatment:
The declining trend identified in Figure 1 is not reflective of statistical means, nor does the figure correlate concentrations to dry seasons or wet seasons. Figure 1 reflects a linear regression, not a statistical regression; therefore, Tier I levels may be exceeded in the future. Broomfield agrees with the Environmental Protection Agency's (EPA) recommendations to continue collection of the groundwater to reduce the concentration of TCE to a level approximating the Tier II groundwater value. The City of Broomfield recommends collection and treatment of groundwater to continue until Tier II values are achieved for a continuous two-year period to ensure concentrations of TCE are stable and below Tier I levels during wet seasons. Continuing the treatment and removal of TCE ensures there will be protection of surface water standards.

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DOE assumes natural attenuation will occur, therefore reducing the impact to surface water. DOE also assumes the linear regression model accurately represents the system, but seasonal precipitation is a variable that is not factored into the linear regression model. What modeling was used to confirm surface water would not be impacted at levels two orders of magnitude or less? Broomfield would appreciate the opportunity to review the modeling performed.

French Drain decommissioning:
Broomfield is concerned with the action to remove the French Drain when there is a high potential to impact surface water if levels of TCE remain that are just below Tier I levels. Both EPA and the Colorado Department of Public Health and Environment (CDHPE) acknowledge that removing the French Drain eliminates a "line of defense" for surface water, and they emphasize the need to include an evaluation of impact to surface water. Has the evaluation been performed? Broomfield would appreciate the opportunity to review the evaluation of impact to surface water and the details of decommissioning of the French Drain system. If the first line of defense for surface water is removed, does DOE realize the potential costs that could be incurred to perform corrective actions to protect surface water? Broomfield is adamant the French Drain should not be removed until DOE is confident there will be no impact to surface water.

Statutory determinations:
DOE stated on page 7 of the OU1 CAD/ROD Modification, "the selected remedy is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate to the remedial action, and is cost-effective. DOE has not proven the modified remedy protects the environment (surface water) with the information provided in Figure 1. The remedy has not been satisfied because treatment of hazardous substances has not been completed to reduce the toxicity, mobility, or volumes as a principal element. The minimal costs of $40,000 a year to treat the groundwater until consistent concentration levels of TCE are below Tier I does not impact funds for other more beneficial projects which have already been funded. DOE should consider the potential costs if they have to remediate the IHSS after the French Drain is removed and hazardous substances are contaminating surface water. The constituents of concern (COC) in subsurface soils are well below the Tier 1 action levels according to Table 1 of the CAD/ROD. Has an evaluation been performed to determine the impact to surface water from the COCs remaining within the subsurface soil? Will groundwater within this area have the potential to daylight to the surface? If the groundwater does daylight, will it meet surface water standards, or is DOE counting on dilution in the South Interceptor Ditch and Pond C-2? DOE should remove or destroy hazardous substances to the maximum extent feasible, eliminating or minimizing, to the degree possible, the need for long term management. According to CERCLA, DOE's goal should be long term effectiveness and permanence to successfully remediate OU1, and not, as indicated in the modification, to anticipate the need for additional remedial actions in the future in the event that Tier I concentrations are exceeded.

The City of Broomfield at this point in time does not believe DOE has effectively analyzed analytical trends that guarantee concentrations of TCE will remain below Tier I levels. The

modification does not explain how the reduction of the remedy eliminates, reduces, or controls exposures to environmental receptors, which would degrade surface water quality. Broomfield wants to reiterate the need to continue pumping and treating the contaminated water until assurances are in place to guarantee the final remedy has been completed.

Thank you for the opportunity to comment on this critical document. The City of Broomfield expects to be aggressively involved with remediation decisions and activities at the Rocky Flats Environmental Technology Site (RFETS). If you have any questions, please feel free to call Shirley Garcia at 303-438-6329 or contact me at 303-438-6363.

Sincerely,

Kathy Schnoor

Kathy Schnoor
Environmental Services Superintendent

cc: ✓Steve Gunderson, CDPHE
Carl Spreng, CDPHE
Tim Rehder, EPA
Gary Kleeman, EPA

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WESTMINSTER

August 18, 2000

Norma Castaneda
Kaiser-Hill, L.L.C.
Rocky Flats Environmental Technology Site
10808 Highway 93, Unit A
Golden, Colorado 80403-8200

Dear Ms. Castenada:

City of Westminster
Department of
Public Works
and Utilities

4800 West 92nd Avenue
Westminster, Colorado
80030

303-430-2400
FAX 303-650-1643
TDD 303-428-0648

Thank you for the opportunity to review and provide comments on the proposed "Major Modification to Operable Unit 1 (OU1): 881 Hillside Area Corrective Action Decision/Record of Decision (CAD/ROD)."

As the modification document states, "the French Drain collects groundwater from the vicinity and transports it for treatment." The City understands that under the revised proposal, the French Drain will be breached and the drain will no longer collect groundwater for treatment. The water collected in the French Drain system will be diverted to the South Interceptor Ditch. Based on this information, Westminster offers the following comments:

- A correlation of Trichloroethene (TCE) concentrations to the water table levels reflected in the OU1 collection well needs to be completed. Such a graph would give a more complete picture of the of TCE values relative to the water table. There is a possibility that the natural ebb and flow of the underlying water table could directly impact the TCE concentrations. Breaching the French Drain before the water balance study is complete would be premature. Removing the Drain eliminates a line of defense for surface water and emphasizes the need to include an evaluation of impacts to surface water.

- The simple linear regression of TCE concentrations over time as noted in Figure 1 (OU1 Collection Well Trichloroethene Concentrations Projections) shows the r-squared value of 0.5959. A value that was closer to 1 would provide greater confidence that a declining trend was indeed occurring. Rather than relying on an assumption that natural attenuation is taking place, and that the linear regression model accurately reflects the system, DOE is strongly encouraged to maintain the system for three more years, in order to obtain better statistical data to prove that the trend is actually occurring.

- Attached graph #1, prepared by City Staff using DOE data, shows the relationship between Trichloroethene concentrations and precipitation at Rocky Flats. It appears that there are higher concentrations during periods of low precipitation. Although the February 00 concentration data point goes down below 400 ug/l after the October 99 precipitation event of 3.5 inches of rain, there is not enough additional information to indicate that there is indeed a downward trend of TCE in the OU1 Collection Point.

- Attached graph #2 provides a correlation of precipitation vs. Trichloroethene data points. Most of the data points are concentrated in the area of 0.5 to 1 inches of precipitation, which is the usual annual amount of precipitation for this area. It would seem that data from a normal precipitation year would provide a much stronger indicator that there was indeed a downward trend.

- The proposed 1-year operation of the collection well is too short a period of time to monitor the concentration levels and trends. There is a potential for alteration of the underlying groundwater levels, as well as changes of flows occurring during removal of contaminated building foundations located below the groundwater table.

- The City would also request that monitoring for TCE and other contaminants from the 881 Hillside is initiated at Indiana if DOE is determined to proceed with this proposed modification. Protection of the Woman Creek Reservoir from TCE and other Hillside contaminants must be ensured.

- Long-term stewardship costs, as well as institutional controls related to the Major Modification are not included in the document. Please provide this information to the City, and add it to the final decision document.

Westminster therefore supports the EPA position that collection of this groundwater through the year 2003 would very likely reduce the concentration of TCE in to a level approximating the Tier II groundwater value. Additionally, retaining the French Drain for three more years and providing additional monitoring data, would serve to instill confidence in a DOE decision to remove the drain at that point in time.

It is extremely important that DOE utilizes sound engineering principles, scientific knowledge along with quality statistical and monitoring data to support any cleanup, remediation or decision modifications that have the potential to impact surface and groundwater. The City strongly urges the Department of Energy to review surface and groundwater impacts from cleanup actions/modifications from a holistic viewpoint rather than piecemeal as is currently the case.

Sincerely,

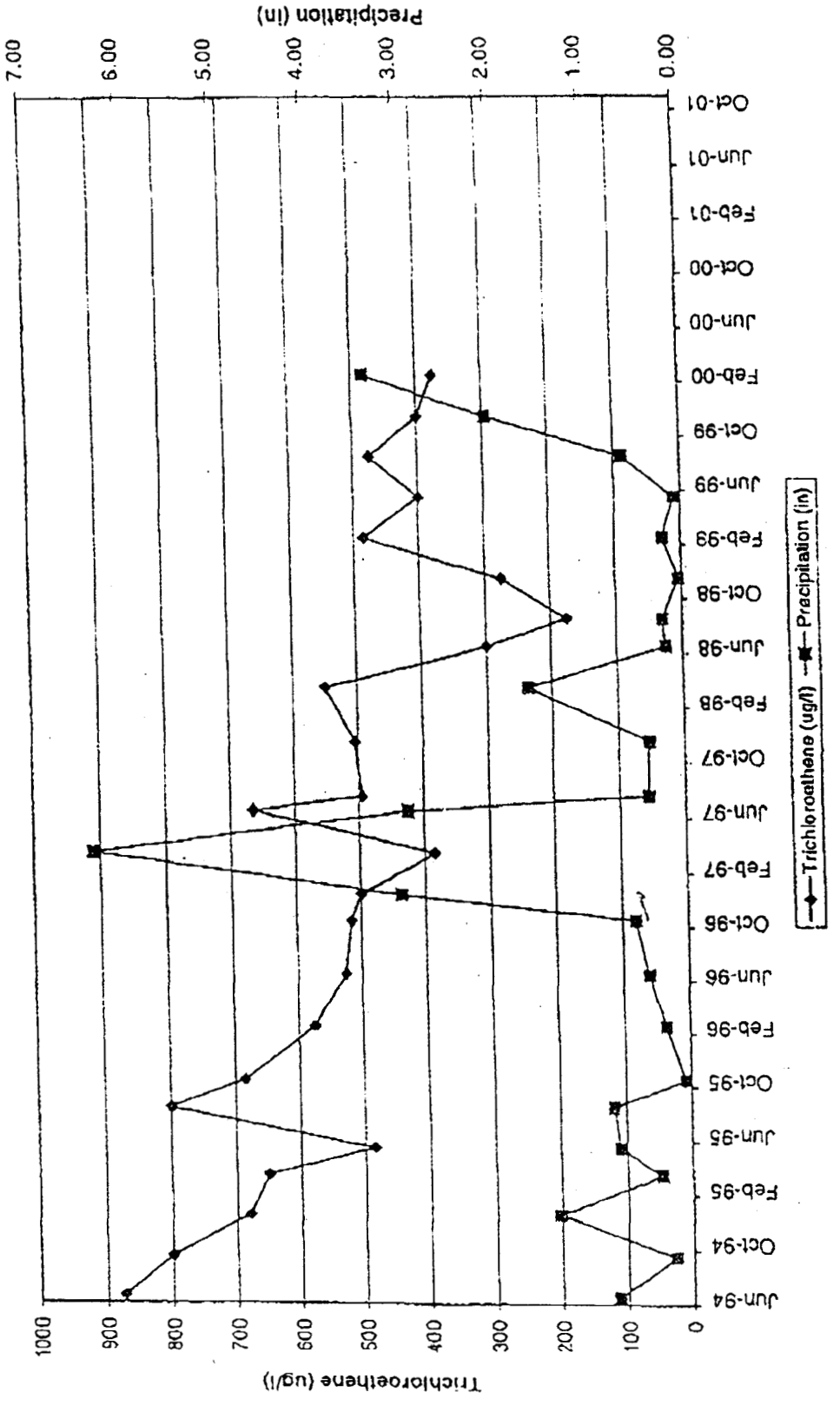
Mary Harlow

Mary Harlow
Rocky Flats Coordinator

Steve Gunderson, Colorado Department of Public Health and Environment
Carl Spreng, Colorado Department of Public Health and Environment
Tim Rehder, Environmental Protection Agency
David Abelson, Rocky Flats Coalition of Local Govenments

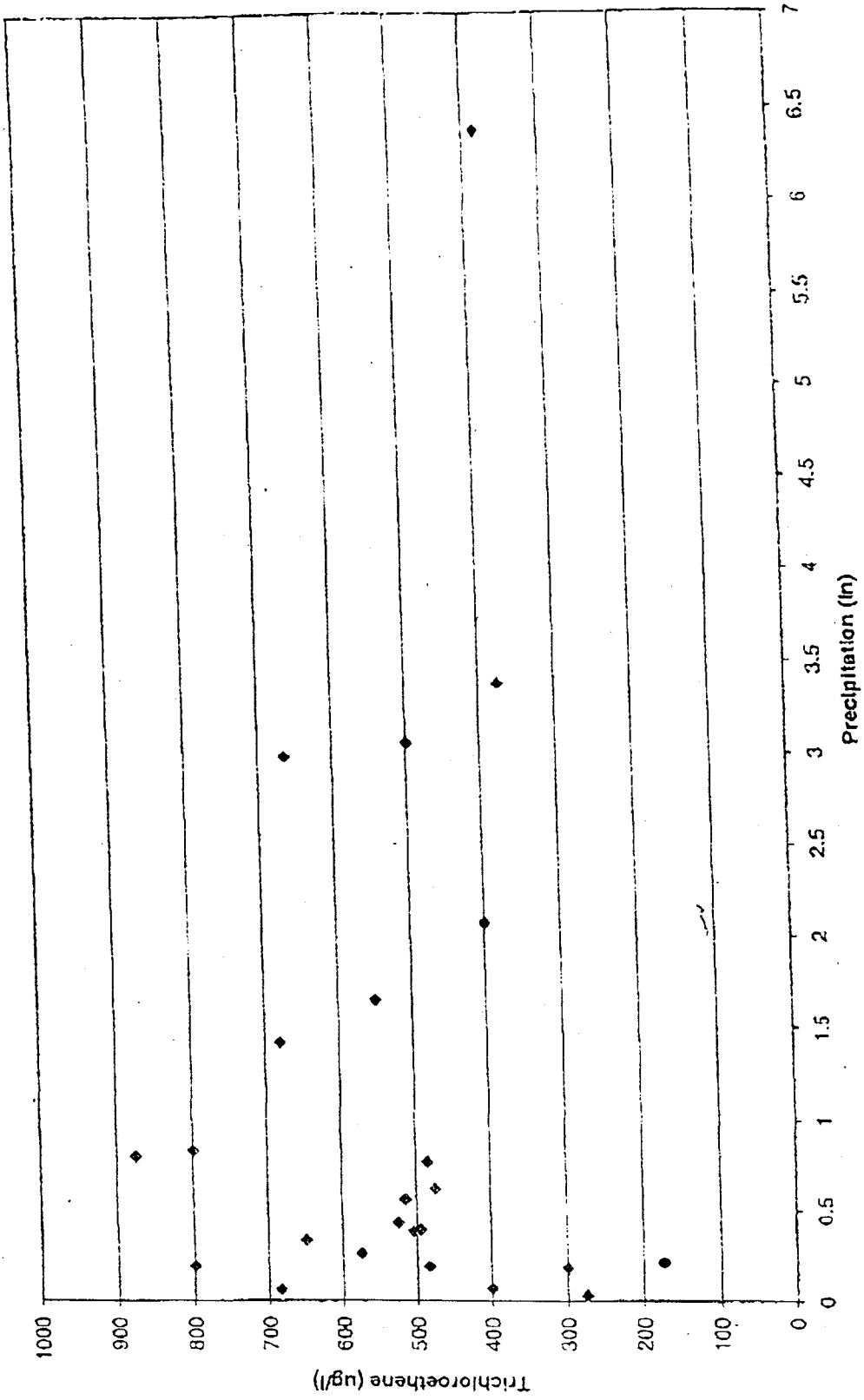
Attachment #1
Prepared by City of Westminster 08/10/2000

OU 1 Collection Well
Trichloroethene Concentrations



Attachment #2
Prepared by City of Westminster 08/11/2000

Comparison of Precipitation vs. Trichloroethene



Norma

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Man-in-the-Maze Consulting

July 28, 2000

Joseph Legaro
Asst. Mgr. for Environment & Infrastructure
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10808 Hwy. 93 Unit A Bldg 460
Golden, CO 80403

Timothy Rehder
Rocky Flats Team Leader
Environmental Protection Agency
999 18th Street Suite 500
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RFCA Project Coordinator
Colorado DPH&E
4300 Cherry Creek Drive S
Denver, CO 80246

SUBJECT: Comment on Major Modification to Operable Unit 1: 881 Hillside Area

Gentlemen:

I question DOE's assumption that: "Based on the OU1 CMS/FS modeling results and the conclusions presented in the Final Post CAD/ROD Investigation Report, the source of contamination at IHSS 119.1 has been removed." (Responses to EPA Comments on the Draft Proposed Major Modification to the CAD/ROD for Operable Unit 1, attachment to letter from Joe Legare to Tim Rehder & Steve Gunderson, 00-DOE-02719, date unreadable)

The data from the chart titled "OU 1 Collection Well Trichloroethene Concentrations" (attached to the aforementioned letter) allow more than one inference to be drawn. The flux in concentrations do not appear to be random – they oscillate. In 1994, 1995, and 1997 the concentrations spike in the summer months and bottom out in the winter months. Concentrations in 1998 and 1999 show a reversal of this oscillation. Such periodic oscillation in complex systems can often be attributed to an underlying structural mechanism. That the general trend is down:

1. Could mean that the source of contamination at IHSS 119.1 has been removed as the DOE contends.
2. Or it could mean that the medium that transports the contamination is controlled by some hidden variable(s).

Precipitation and temperature are two variables that I would like to see correlated with the collection well data. The trichloroethene and other solvents are being transported by groundwater at a relatively shallow depth. The amount of groundwater available for transport is dependent on precipitation received and the temperature (water can't flow when frozen). Is there less groundwater available to transport the contaminants during dry periods? Is the groundwater less effective in transporting contaminants when either the surface or subsurface water is frozen? Can some of the contamination that is situated above a low water table resist transport during dry periods? Is there a positive correlation between the effect of precipitation and temperature on the contamination transport system and the well readings? I would expect to find a time delay that creates an interval between groundwater availability and the well concentrations observed (time for water to flow down gradient from source to observation well).

Common sense would suggest that less contamination down gradient means less contamination up gradient. However, complex systems are often counterintuitive. The downward trend of data in the OU 1 Collection Well chart could reflect the decreasing availability or effectiveness of the contamination transport medium and not that the source of contamination at IHSS 119.1 has been removed. If the scenario I have presented is correct, the contamination is still present and just lacking sufficient groundwater to transport it down gradient.

"Intuition and judgment, generated by a lifetime of experience with simple systems that surround one's every action, create a network of expectations and perceptions that could hardly be better designed to mislead the unwary when he moves into the realm of complex systems." (Jay Forrester)

Greg Murray

A systems thinking approach to organizational design and problem solving

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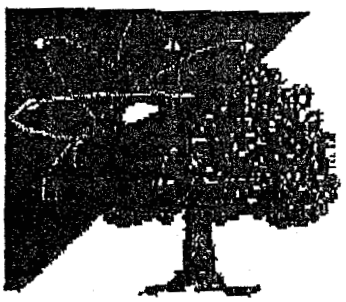

Date: 8/2/00

UNCLASSIFIED FAX

DEPARTMENT OF ENERGY
ROCKY FLATS FIELD OFFICE
ENVIRONMENTAL COMPLIANCE

P.O. BOX 928
GOLDEN, CO. 80402-0928

TO: Tracey Spence FAX #: 5180

PHONE #:

FROM: Castañeda FAX #:

PHONE #:

MESSAGE:

4 10/10